

APPARATUS AND METHOD FOR CONVERTING A FUEL CELL MEMBRANE WEB TO PRECISELY POSITIONED MEMBRANE SHEETS

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ABSTRACT OF THE DISCLOSURE

An apparatus and method provide for automated converting of a web of a thin patterned catalyst-coated membrane to separate membrane sheets for fuel cell assembly. The membrane typically has a thickness of about one thousandth of an inch. Automated web converting involves transporting, with use of a movable vacuum, an end portion of the membrane web from a first location to a second location. With use of respective first and second vacuums at the first and second locations, and after removal of the movable vacuum, the end portion of the membrane web is releasably secured at the first and second locations. The membrane web is cut within a gap defined between a single catalyst pattern of the membrane web end portion and an adjacent catalyst pattern to produce a membrane sheet. The membrane sheet is precisely positioned to a desired orientation to facilitate subsequent processing of the membrane sheet.

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